

Intellectual Ventures I LLC et al.
v.
Erie Indemnity Co. et al. and
Highmark, Inc. et al.

No. 1:14-cv-00220, 2:14-cv-01131 (W.D. Pa.)

Rule 12(b)(6) Motion to Dismiss
April 14, 2015

Organization

- Unpatentable Subject Matter Under 35 U.S.C. § 101
 - Summary of § 101 Substantive Law
 - Summary of § 101 Procedural Law
 - '581 Patent
 - '434 Patent
- Insufficient Pleading of IV's Direct Infringement Claims
- Appendix

Unpatentable Subject Matter Under 35 U.S.C. § 101

Summary of Substantive Law

Alice Corp. v. CLS Bank International

- Supreme Court raised the bar for establishing subject-matter eligibility under 35 U.S.C § 101 for computer-implemented inventions
- Two-step test to determine whether computer-implemented invention is eligible for patent protection
 - Are the claims at issue directed to an abstract concept?
 - Is there an inventive concept in the claim?
- “Wholly generic computer implementation” is insufficient to transform the idea into a patent-eligible invention. *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2350, 2358 (2014)

Alice Step 1: Abstract Concept

- Are the claims at issue **directed** to an abstract concept?
- Court must determine what the underlying invention is
 - *See Alice*, 134 S. Ct. at 2356 (characterizing abstract concept as “intermediated settlement” despite claim elements reciting specific use of shadow credit and debit records and additional technology)

Alice Step 1: Abstract Concept (cont.)

- Ideas embodied by “technical computer solutions,” Dkt. 52, at 3, or that involve “tech-laden claims,” Dkt. 62, at 2, can qualify as abstract ideas.
 - *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014) (method for generating set of data elements describing camera color/spatial image qualities)
 - *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336,1345 (Fed. Cir. 2013) (system for generating task to be performed in an insurance organization based on “a set of rules that are applied to” insurance transaction information)

Alice Step 2: Inventive Concept

- Is there an inventive concept in the claim separate from the abstract idea?
- Inventive concept is “an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Alice*, 134 S. Ct. at 2355.
- The following does not give rise to an inventive concept:
 - “[T]he mere recitation of a generic computer.” *Id.* at 2358.
 - “[L]imiting the use of an abstract idea to a particular technological environment.” *Id.*
 - Adding “well-understood, routine, conventional features.” *Id.* at 2359.

Unpatentable Subject Matter Under 35 U.S.C. § 101

Summary of Procedural Law

§ 101 Determination Properly Resolved on Pleadings

- “Challenges to patentability under section 101 may be brought based solely on the pleadings[]” *Open Text S.A. v. Box, Inc.*, -- F. Supp. 3d --, 2015 WL 269036, at *2 (N.D. Cal. Jan. 20, 2015).
 - *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343 (Fed. Cir. 2014) (affirming Rule 12(b)(6) dismissal)
- Section 101 dismissals have become common after *Alice*
 - The District of Delaware has granted or granted in part 7 such motions (100% grant rate), invalidating 10 patents

Claim Construction and § 101

- Claim construction is not a prerequisite to the § 101 analysis
 - “There is no requirement that [a] district court engage in claim construction before deciding § 101 eligibility.” *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App’x 988, 991 n.1 (Fed. Cir. 2014).
 - “[C]laim construction is not an inviolable prerequisite to a validity determination under § 101.” *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1273 (Fed. Cir. 2012).
 - *Content Extraction*, 776 F.3d at 1349 (rejecting argument that “district court erred by declaring its claims patent-ineligible under § 101 at the pleading stage without first construing the claims or allowing the parties to conduct fact discovery”).

Claim Construction and § 101 (cont.)

- Court may adopt a construction that is most favorable to plaintiff, congruent with Rule 12(b)(6) standard
 - *CMG Fin. Servs., Inc. v. Pac. Trust Bank, F.S.B.*, -- F. Supp. 3d --, 2014 WL 4922349, at *6, 9 n.3 (C.D. Cal. Aug. 29, 2014) (“[c]onstruing all [c]laims in a light most favorable to Plaintiff” and holding patent invalid under § 101)
- IV has not proposed any claim construction for any term

Analysis of Each and Every Claim

- The § 101 inquiry requires analysis of only the representative claims
 - *The Money Suite Co. v. 21st Century Ins. & Fin. Servs., Inc.*, 2015 WL 436160 (D. Del. Jan. 27, 2015) (Sleet, J.) (invalidating 887 claims under § 101 on a motion to dismiss based on analysis of single independent claim and collective analysis of dependent claims together)
 - *See Content Extraction*, 776 F.3d at 1349 (invalidating 242 claims in four related patents based on analysis of only two claims)
- The parties need not stipulate as to which claims are representative—court can determine which claims are in fact representative
 - *See id.* at 1348 (reviewing “all the claims of [all] asserted patents” and agreeing with defendants that the chosen representative claim, contested by plaintiff, was in fact representative of all claims)

U.S. Patent No. 6,519,581

'581 Patent

(12) **United States Patent**
Hofmann et al.

(10) Patent No.: **US 6,519,581 B1**
(45) Date of Patent: **Feb. 11, 2003**

(54) **COLLECTION OF INFORMATION REGARDING A DEVICE OR A USER OF A DEVICE ACROSS A COMMUNICATION LINK**

(75) Inventors: **William D. Hofmann**, Berkeley, CA (US); **John C. Hurley**, Sanata Clara, CA (US)

(73) Assignee: **Alset, Inc.**, Palo Alto, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/844,858**

(22) Filed: **Apr. 27, 2001**

Related U.S. Application Data

(63) Continuation of application No. 09/017,112, filed on Jan. 31, 1998, now Pat. No. 6,236,983.

(51) Int. Cl. **G06F 7/00**

(52) U.S. Cl. **706/47; 706/45; 706/46**

(58) Field of Search **706/45; 46; 47; 706/52, 61; 707/101, 102**

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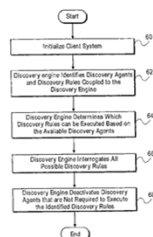
Primary Examiner—Anil Khatri

(74) Attorney, Agent, or Firm—Lisa N. Benado

(57) ABSTRACT

A system is provided for collecting information regarding a device or a user of a device. Information is collected from a discovery agent residing on the computer system. At certain times, the agent may be activated to collect the information. A sender transmits a discovery rule across a communication link to a computer system. The discovery agent and the discovery rule are separate code sequences or separate programs. The discovery rule is then applied to the information received from the discovery agent and the resulting information is returned back to the sender. Where the sender receives a user request, such as regarding the computer system, the discovery rule may be transmitted and the sender may use the resulting information to respond to the user request.

47 Claims, 6 Drawing Sheets



(12) **United States Patent**
Hofmann et al.

(10) Patent No.: **US 6,519,581 B1**
(45) Date of Patent: **Feb. 11, 2003**

(57)

ABSTRACT

A system is provided for collecting information regarding a device or a user of a device. Information is collected from a discovery agent residing on the computer system. At certain times, the agent may be activated to collect the information. A sender transmits a discovery rule across a communication link to a computer system. The discovery agent and the discovery rule are separate code sequences or separate programs. The discovery rule is then applied to the information received from the discovery agent and the resulting information is returned back to the sender. Where the sender receives a user request, such as regarding the computer system, the discovery rule may be transmitted and the sender may use the resulting information to respond to the user request.

'581 Patent



Summary of Technology

SUMMARY OF THE INVENTION

Embodiments of the present invention provide a system for passively and actively collecting information about a device, such as a computing device and/or the user of the device. The system uses one or more discovery agents to collect information about a device or its user. The discovery agents do not have intelligence to understand the collected information. Instead, the discovery agents communicate the collected information to a discovery engine, which receives collected data from the discovery agents and applies discovery rules to the collected data. The discovery rules determine what, if any, action is to be taken based on the collected data.

'581 Patent, 1:61-2:6



Summary of Technology (cont.)

- Discovery Agent

- A discovery agent is a “code sequence” residing on the system programmed to collect a particular type of information from the target device
- “The discovery agents themselves have no intelligence regarding how to interpret or act on the collected data.” ’581 Patent, 3:10-12.
- Persons of ordinary skill would know how to code the discovery agents

The following detailed description sets forth numerous specific details to provide a thorough understanding of the invention. However, those of ordinary skill in the art will appreciate that the invention may be practiced without these specific details. In other instances, well-known methods, procedures, protocols, components, algorithms, and circuits have not been described in detail so as not to obscure the invention.

’581 Patent, 2:64-3:4

Summary of Technology (cont.)

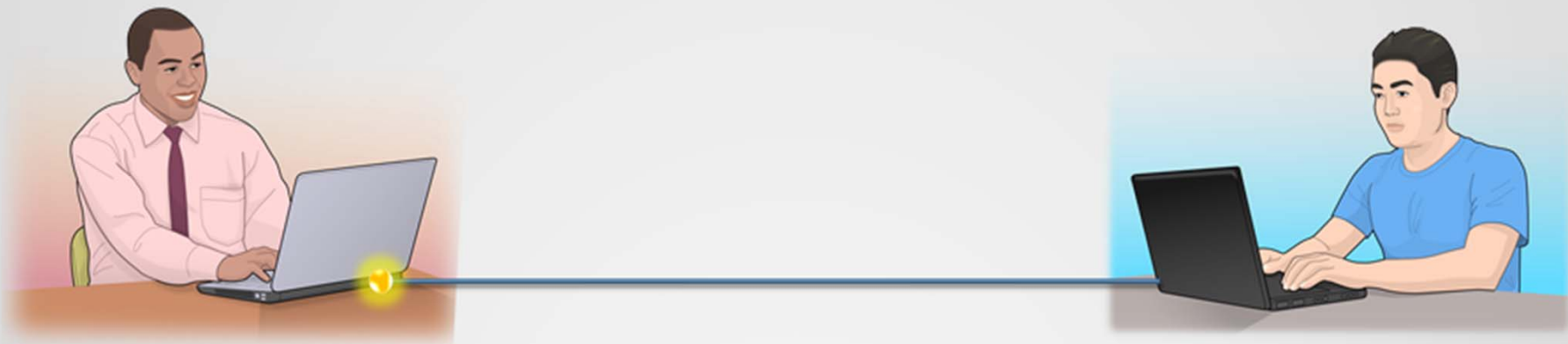
- Discovery Rule
 - A discovery rule is a separate “code sequence” that determines what, if any, action is to be taken based on the collected data
 - The rules “may be a series of Boolean operations, mathematical equations, or other comparisons or evaluations of the collected data.”
'581 Patent, 3:18-21.

```
if {disk_space < 2 MB}  
  
then display {"Warning: available disk space is low"};
```


Representative Claim 1

1. A method of collecting information, the method comprising:
transmitting a discovery rule across a communication link to a computer system, wherein the discovery rule is to be applied to data about the computer system or a user to generate information, and wherein the data is collected by a discovery agent located in the computer system, and
receiving the information from the computer system.

'581 Patent, Claim 1



Alice Step 1: Abstract Idea

- Patent is directed to the abstract idea of collecting information about a device or its user

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3 specific details. In other instances, well-known methods, procedures, protocols, components, algorithms, and circuits have not been described in detail so as not to obscure the invention.

4 The present invention provides a system for passively and actively collecting information about a device, such as a computing device and/or the user of the device. The system uses one or more discovery agents (implemented using individual programs or code sequences) to collect information about a device or its user. The discovery agents themselves have no intelligence regarding how to interpret or act on the collected data. Instead, the discovery agents merely communicate the collected data to a discovery engine, which is a central control module for the information collection system. The discovery engine receives collected data from the discovery agents and applies one or more discovery rules to the collected data. The discovery rules determine what, if any, action is to be taken based on the collected data. As discussed below, the discovery rules may be a series of Boolean operations, mathematical equations, or other comparisons or evaluations of the collected data.

5 The discovery agents are separate programs (or code sequences) from the discovery rules, and there is no particular relationship between the discovery agents and the discovery rules. A particular discovery agent may collect data that is used by one or more discovery rules. Similarly, a particular discovery rule may use data collected by one or more discovery agents. Thus, if a particular piece of data collected by a discovery agent is used by multiple discovery rules, that data need only be collected once, rather than retrieving the required data multiple times (once for each discovery rule requiring the information). The discovery engine is responsible for determining what data is required by a particular discovery rule and activating the appropriate discovery agents to collect the required data.

6 Since the discovery agents and the discovery rules are not linked to one another, new discovery agents can be generated and existing discovery agents can be modified without necessarily requiring a corresponding change to the existing discovery rules. Similarly, an existing discovery rule can be changed or an additional rule added without necessarily making any changes to the existing discovery agents. For example, a new discovery rule may be created that uses data from existing discovery agents. In this situation, no additional discovery agents are required to implement the new discovery rule. Thus, the operation of the information collection system can be modified without requiring a revision of all agents and rules contained in the system.

7 The updating of discovery agents and discovery rules can be accomplished by downloading agents or rules from a server or other device, or installed from a diskette or other storage medium. In one embodiment of the invention, new or revised agents and rules are downloaded automatically from a server to the device when the device establishes a connection with the server. This embodiment updates the agents and rules without requiring any user interaction or user control. Since the discovery agents and discovery rules are separate programs or code sequences, individual agents and rules can be communicated across a common data communication link, without requiring a high-speed or high-bandwidth communication link.

8 Particular embodiments of the invention allow an individual, such as a technical support representative or a sales representative, to download a particular discovery agent or discovery rule to a client across a communication link, without requiring action by the user of the client. In a

The present invention provides a system for passively and actively collecting information about a device, such as a computing device and/or the user of the device. The system uses one or more discovery agents (implemented using individual programs or code sequences) to collect information about a device or its user. The discovery agents themselves have no intelligence regarding how to interpret or act on the collected data. Instead, the discovery agents merely communicate the collected data to a discovery engine, which is a central control module for the information collection system. The discovery engine receives collected data from the discovery agents and applies one or more discovery rules to the collected data. The discovery rules determine what, if any, action is to be taken based on the collected data. As

'581 Patent, 3:5-18

Alice Step 1: Abstract Idea (cont.)

- *Parker v. Flook*, 437 U.S. 584 (1978)
 - **Patent Claims:** computer-implemented method for collecting information about a variable (e.g., temperature) associated with a catalytic chemical conversion process, and calculating an updated alarm limit based on that data (i.e., applying a rule to collected data).
 - **Held:** manipulating data by using a computer to monitor data associated with a process is unpatentable subject matter
- Collecting information about a device or its user is an abstract idea
 - “The concept of data collection” is “undisputedly well-known.” *Content Extraction*, 776 F.3d at 1347.

Alice Step 1: Abstract Idea (cont.)

- Collecting information is not patentable even if it uses mathematical equations to do so:
 - 2015 Patent Office Guidance on Patent Eligible Subject Matter 14 (noting that patent is directed to abstract idea where “the claimed method simply describes the concept of gathering and combining data by reciting steps of organizing information through mathematical relationships.” (citing *Digitech*, 758 F.3d 1344)).

Alice Step 2: No Inventive Concept

- Claims recite well-known technology and do not improve the functioning of such technology

Claim Term	Patent Disclosure
“computer system”	<p>for particular implementations of the invention. The computer system shown in FIG. 7 may be any type of computer, including a general purpose computer.</p> <p>'581 Patent, 10:13-15</p>
“discovery rule”	<p>any, action is to be taken based on the collected data. As discussed below, the discovery rules may be a series of Boolean operations, mathematical equations, or other comparisons or evaluations of the collected data.</p> <p>'581 Patent, 3:18-21</p>
“communication link”	<p>link 22. Communication link 22 can be any type of communication link using any type of communication medium.</p> <p>'581 Patent, 5:20-21</p>
“discovery agent”	<p>computing device and/or the user of the device. The system uses one or more discovery agents (implemented using individual programs or code sequences) to collect information about a device or its user. The discovery agents themselves have no intelligence regarding how to interpret or act on the collected data. Instead, the discovery agents merely</p> <p>'581 Patent, 3:7-12</p>

Claims Need Not Be Construed

- The claim terms identified by IV as needing construction are defined in the specification

Claim Term	Patent Disclosure
“computer system”	<p>for particular implementations of the invention. The computer system shown in FIG. 7 may be any type of computer, including a general purpose computer.</p> <p>'581 Patent, 10:13-15</p>
“discovery rule”	<p>any, action is to be taken based on the collected data. As discussed below, the discovery rules may be a series of Boolean operations, mathematical equations, or other comparisons or evaluations of the collected data.</p> <p>'581 Patent, 3:18-21</p>
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Analysis of Each Claim

- Defendants analyzed each and every claim in their opening brief

Claim	Analysis in Erie/Highmark's Opening Brief (Dkt. 46-1)
Independent Claim 1	Pages 10-11
Independent Claims 11, 20, 29, 39	Pages 11-12
Dependent Claims 3, 5, 13, 15, 21, 22, 31, 33, 41, 43	Page 12, Footnote 6
Dependent Claims 2, 6, 10, 19, 24, 28, 30, 34, 38, 47	Page 12, Footnote 7
Claims 4, 7, 14, 16, 23, 25, 32, 35, 42, 44	Page 12, Footnote 8
Claims 8, 9, 12, 17, 18, 26, 27, 36, 37, 40, 45, 46	Page 12, Footnote 9

U.S. Patent No. 6,510,434

'434 Patent

United States Patent
Anderson et al.

(10) Patent No.: **US 6,510,434 B1**
(45) Date of Patent: **Jan. 21, 2003**

(54) SYSTEM AND METHOD FOR RETRIEVING INFORMATION FROM A DATABASE USING AN INDEX OF XML TAGS AND METAFILES

5,634,051 A 5/1997 Thompson
5,636,350 A 6/1997 Tick et al. 345/440

(List continued on next page.)

(75) Inventors: Dewey C. Anderson; David J. Anderson, both of Atlanta, GA (US)

(73) Assignee: BellSouth Intellectual Property Corporation, Wilmington, DE (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/474,644

(22) Filed: Dec. 29, 1999

(51) Int. Cl. G06F 17/30; G06F 15/00; G06F 15/16

(52) U.S. Cl. 707/100; 707/101; 707/102; 707/103; 707/104; 707/3; 707/10; 707/51; 709/201

(58) Field of Search 707/100, 101, 707/102, 103, 104, 3, 10, 51; 709/201

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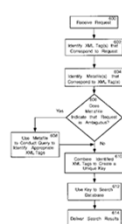
Primary Examiner—Franz Coby

(74) Attorney, Agent, or Firm—Kilpatrick Stockton LLP

(57) ABSTRACT

Retrieving information from a database using an index of XML (eXtensible Markup Language) tags and metafiles. The index includes XML tags that correspond to domains and categories. The domains and categories are selected to facilitate searching of the database. An XML tag can have a corresponding metafile that includes XML tags for related domains and categories. The metafile can also establish a hierarchy for the tags within the metafile. Each record of the database includes an index component which lists the domain tags and category tags that are associated with the record. When a search request is received, the request is parsed to identify the terms in the request. The terms are predetermined and generally correspond to the domains and categories of the index. The terms are mapped to tags. Once the appropriate tags are identified, then the metafiles that correspond to those tags are identified. The metafiles can be used to identify additional tags that are relevant to the search. The identified tags are combined to create a unique key. The key is used to search the database to locate records that include the tags in their index component.

28 Claims, 12 Drawing Sheets



(12) **United States Patent**
Anderson et al.

(10) Patent No.: **US 6,510,434 B1**
(45) Date of Patent: **Jan. 21, 2003**

(57)

ABSTRACT

Retrieving information from a database using an index of XML (eXtensible Markup Language) tags and metafiles. The index includes XML tags that correspond to domains and categories. The domains and categories are selected to facilitate searching of the database. An XML tag can have a

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'434 Patent

Summary of Technology

US 6,510,434 B1

1 SYSTEM AND METHOD FOR RETRIEVING INFORMATION FROM A DATABASE USING AN INDEX OF XML TAGS AND METAFILES

RELATED APPLICATIONS

This U.S. patent application relates to U.S. Pat. No. 5,878,423, entitled "A System and Methods for Dynamically Processing an Index to Dynamically Create a Set of Questions", U.S. Pat. No. 5,937,168, entitled "A System and Methods for Routing Information Within an Adaptive Routing Architecture of an Information Retrieval System", U.S. Pat. No. 6,005,860 entitled "A Method for Routing Information Between an Origination Module and a Destination Module Using a Routing Architecture", and U.S. patent application Ser. No. 08/949,881, entitled "A System and Method for Processing a Memory Map to Provide Listing Information Representing Data within a Database" filed Oct. 14, 1997 now U.S. Pat. No. 5,952,946. The present application and the related U.S. patents and pending U.S. patent application are assigned to BellSouth Intellectual Property Corporation.

TECHNICAL FIELD

This invention relates in general to locating information in a database, and more particularly to using an index that includes tags and metafiles to locate the desired information.

BACKGROUND OF THE INVENTION

There is an ever-increasing amount of recorded and searchable information. To efficiently search for specific information, information retrieval systems have been developed. Information retrieval systems ("IR systems") are systems for finding, organizing, and delivering information. A computerized IR system typically responds to data inquiries or search requests by routing messages and files between a user interface and a search engine for a database in order to perform a search of the database for desired information.

A goal of an IR system is to locate the requested information as quickly as possible. However, one problem with IR systems is that the search results returned do not always include the information requested. If the search results do not include the information requested, then the user must repeat the search using a different search request. One reason that the search results returned may not include the information requested is that the IR system incorrectly interpreted the search request. This may happen if the search request uses an ambiguous term. The search request may be ambiguous because a term used in the search request has multiple meanings. For example, if the search request includes the term "Ford", it may be unclear whether the request is directed to the Ford Company, the Ford Theater, or the FORD brand of vehicles. Thus, there is a need in the art for a method that eliminates any ambiguity in the search request.

Another problem is that too much information can be returned to the user. If the user enters a broad search request, then the user may be overwhelmed by the amount of information returned and may not be able to locate the desired information in the search results. For example, if the search request specifies the FORD brand of vehicles, the search results returned may include information on every Ford vehicle, including automobiles, trucks, vans, and vehicles that are no longer in production, as well as information on the repair and sale of FORD brand vehicles. If the user only wanted information about a particular model of automobile, the user must sort through the search results to

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locate the desired information. Thus, there is a need for a method that focuses a search so that only the most relevant information is returned or that queries a user for additional search criteria so that the information desired by the user is provided.

Due to the number of databases, it is possible that information stored in one database is repeated in another database. The same information may be stored in multiple databases to accommodate the requirements of different types of IR systems. To eliminate the need to maintain multiple databases that contain the same information, a universal search vocabulary is needed. If a universal search vocabulary is used to create a database, then any IR system that uses the universal vocabulary can locate information in the database.

Even though there are a multitude of databases, the requested information may not be located in a single database. If a user requests information that is stored in separate, unrelated databases, then the user may need to conduct multiple searches using different IR systems to locate all of the desired information. To eliminate the need to conduct multiple searches, a universal search vocabulary is needed to search any number of separate, unrelated databases to locate the desired information.

Accordingly, there is a need in the art for an improved method of searching that uses a universal search vocabulary. The method should eliminate ambiguity in the search request, focus the search on the most relevant information, perform the search in the most efficient manner and support searching multiple databases. The method should also support a hierarchy that can be used to query a user for additional search criteria in an efficient and intelligent manner.

SUMMARY OF THE INVENTION

The present invention meets the needs described above by providing a method for locating information stored in a database using an index that includes tags and metafiles to locate the desired information. In general, an index is essentially a guide that is used to locate information stored in a database. Preferably, the index includes tags that correspond to categories and domains. A category includes a group of terms. A term may appear in more than one category, but a term may only appear once in any given category. For example, the term "American" may appear in the Cuisine category and in the Brand category, but may only appear once in the Cuisine category.

A domain is generally described as a grouping of categories. For example, the Restaurant domain may include the Cuisine category and, therefore, the terms "Mexican" and "American." The domains, categories, and terms are used to locate information within the database.

The index is created so that a tag is associated with each domain (a domain tag) and with each term associated with a category (a category tag). A tag is associated with data or text and conveys information about the data or text. In one aspect of the invention, the tags are XML (eXtensible Markup Language) tags. For example, an XML tag is created for the Restaurant domain and another XML tag is created for the American Cuisine category. In addition, many of the tags have an associated metafile. A metafile provides additional information about the tag. A metafile typically includes a list of related tags, such as domain tags and category tags. A metafile also implements a hierarchy between the tags in the metafile.

Each record of an exemplary database includes an Alpha Component and an XML Index Component. The Alpha

The present invention meets the needs described above by providing a method for locating information stored in a database using an index that includes tags and metafiles to locate the desired information. In general, an index is

'434 Patent, 2:35-38

“Database” and “Index”

- Database

- A database is a collection of records. ’434 Patent, 2:66.

- *e.g.*, a collection of “classified advertising or e-commerce information” about automobiles, restaurants, physicians, etc. *Id.* 13:29-32.

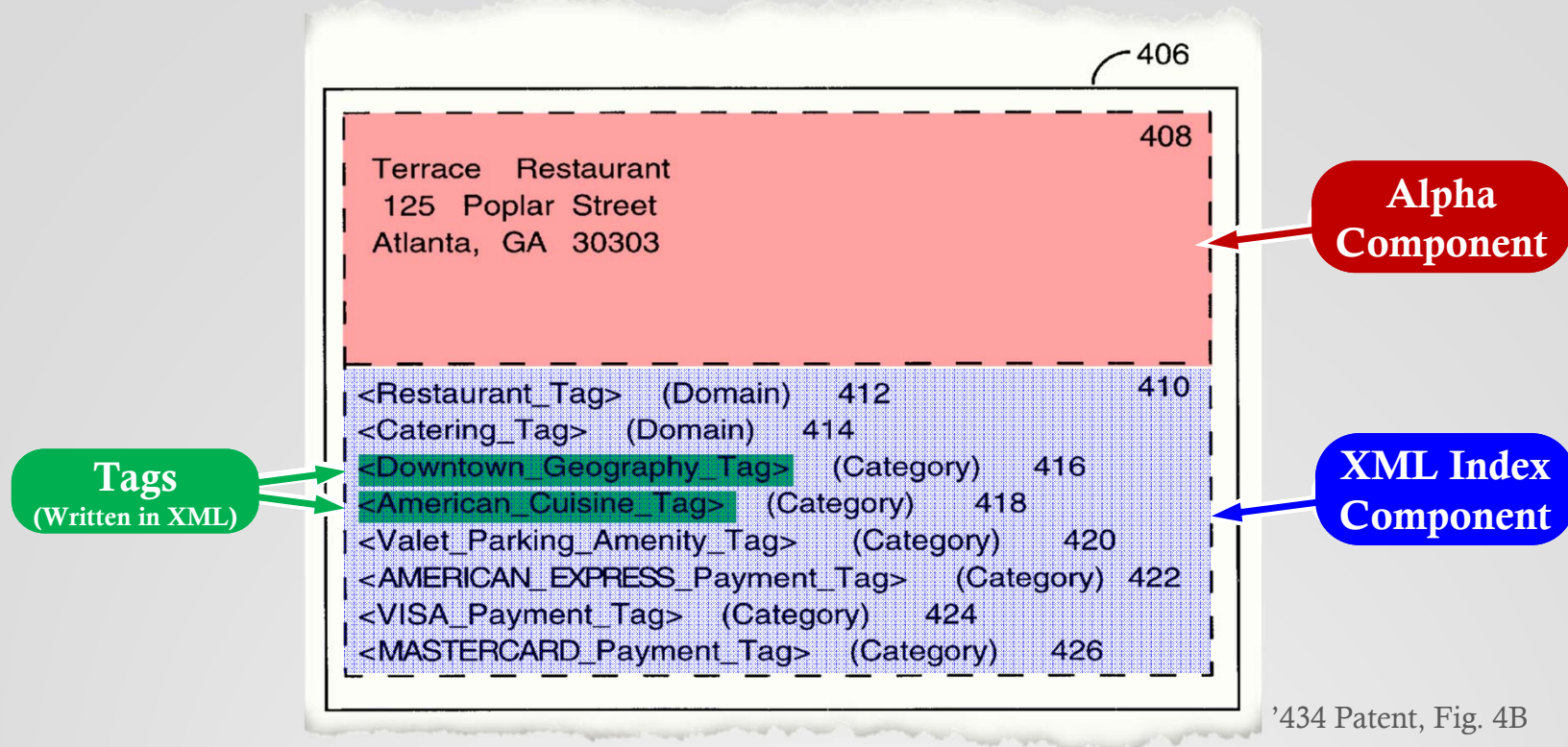
- Index

- An index is “a guide that is used to locate information stored in a database.” *Id.* 4:14-18.

“Terms,” “Categories,” and “Domains”

- **Term:** users search the database by selecting words and phrases, or *terms*, that describe what they are looking for (e.g., “Downtown,” “American”). *See* ’434 Patent, 12:11-15.
- **Category:** “a group of terms.” *Id.* at 2:42-43.
- **Domain:** “a grouping of categories.” *Id.* at 2:48-49.

“Record”



- Each record in the database includes an **Alpha Component** written in English, and an **XML Index Component** comprising a list of **tags** written in XML computer language. '434 Patent, 10:15-24.

“Tags”

- Tags are terms written in a computing language such as XML that provide information about a record

Tags
(Written in XML)

```

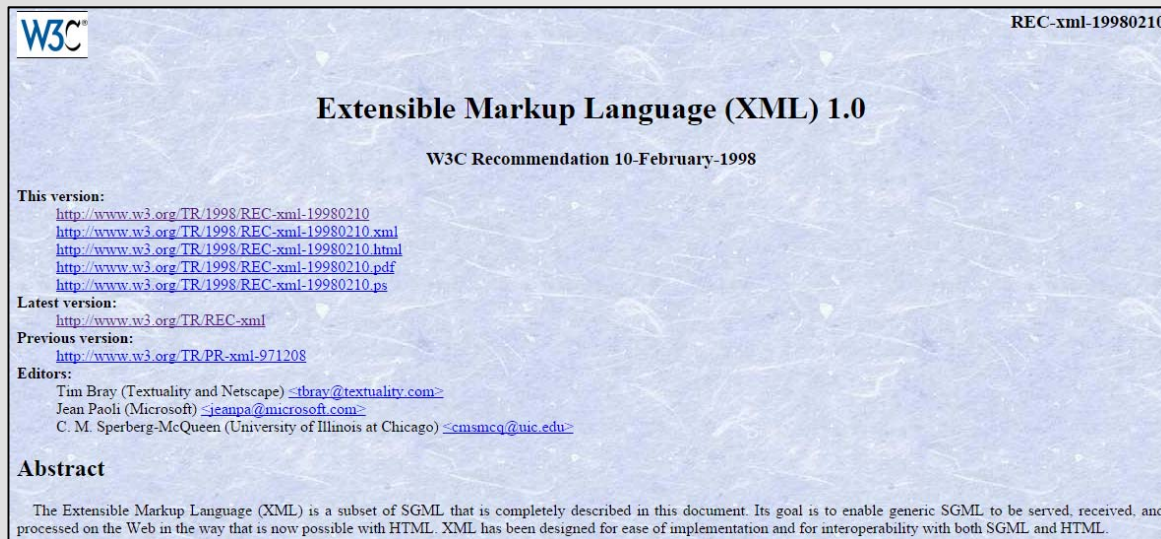
<Restaurant_Tag> (Domain) 412 410
<Catering_Tag> (Domain) 414
<Downtown_Geography_Tag> (Category) 416
<American_Cuisine_Tag> (Category) 418
<Valet_Parking_Amenity_Tag> (Category) 420
<AMERICAN_EXPRESS_Payment_Tag> (Category) 422
<VISA_Payment_Tag> (Category) 424
<MASTERCARD_Payment_Tag> (Category) 426
  
```

'434 Patent, Fig. 4B

- A tag is generally “associated with data or text and conveys information about the data or text.” '434 Patent, 2:55-56, 7:20-22.

“XML Tags”

- XML inherently includes tags
 - “XML is a syntax for creating a markup language that uses a set of tags.” ’434 Patent, 8:67-9:1.
- XML is inherently hierarchical
 - XML supports the description of information in a hierarchical, structured manner. *Id.* at 9:12-14.
- XML was developed by a working group between 1996 and 1998



The screenshot shows the W3C logo in the top left and the document identifier "REC-xml-19980210" in the top right. The main title is "Extensible Markup Language (XML) 1.0" with the subtitle "W3C Recommendation 10-February-1998". Below this, it lists various versions and links: "This version:" with links to the XML, HTML, PDF, and PS versions; "Latest version:" with a link to the TR/REC-xml; and "Previous version:" with a link to the TR/PR-xml-971208. It also lists the editors: Tim Bray (Textuality and Netscape), Jean Paoli (Microsoft), and C. M. Sperberg-McQueen (University of Illinois at Chicago). An "Abstract" section follows, stating that XML is a subset of SGML designed for ease of implementation and interoperability with both SGML and HTML.

W3C, Extensible Markup Language (XML) 1.0 (Feb. 1998), <http://www.w3.org/TR/1998/REC-xml-19980210>

“Category Tags” and “Domain Tags”

Category tags are used to associate individual search terms with a database record. Each category tag includes a search **term** and also identifies the **category** to which that term belongs.

<American_Cuisine_Tag>

'434 Patent, Fig. 4B

- Categories correspond to categories of information, like “Cuisine, Geography, Price, and Amenities.” '434 Patent, 9:49-50.

Domain tags are used to identify the **domains** to which a database record belongs.

<Restaurant_Tag>

'434 Patent, Fig. 4B

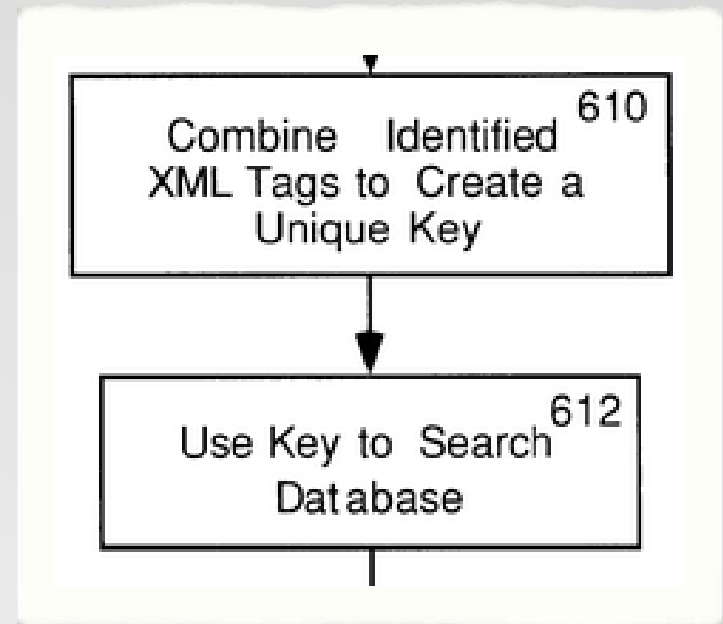
- Domains represent general classes of products or services, such as “Restaurant” and “Automobile.” *Id.* 7:57-58.

“Metafiles”

- Metafiles are lists of related tags, and can arrange the tags hierarchically. '434 Patent at 2:63-65, 7:22-31; *see also* 4:42-43, 8:1-2, 8:55-57, 11:64-65.
 - *e.g.*, in a metafile, the “Pittsburgh” and “Erie” domain tags could be arranged as subservient to the “Restaurant” domain tag.
- Purpose: if the search term “restaurant” results in a very large number of records, the search can be narrowed by adding related tags from the metafile (*e.g.*, narrowing search to restaurants in Pittsburgh or Erie). *See id.* at 13:62-14:11.
- Metafiles are created by the database designer and are generated and stored before any searching of the database takes place. *Id.* at 3:22-30, 7:22-31.

“Key”

- The “key” is the combination of tags used in a search. '434 patent, 3:34-26
- “Once the query has been conducted to identify one of the XML tags, then that XML tag is combined with the other XML tags identified by the metafile and any other queries to create a unique key.” '434 Patent, 3:30-34.



'434 Patent, Fig. 6A

Representative Claim 1

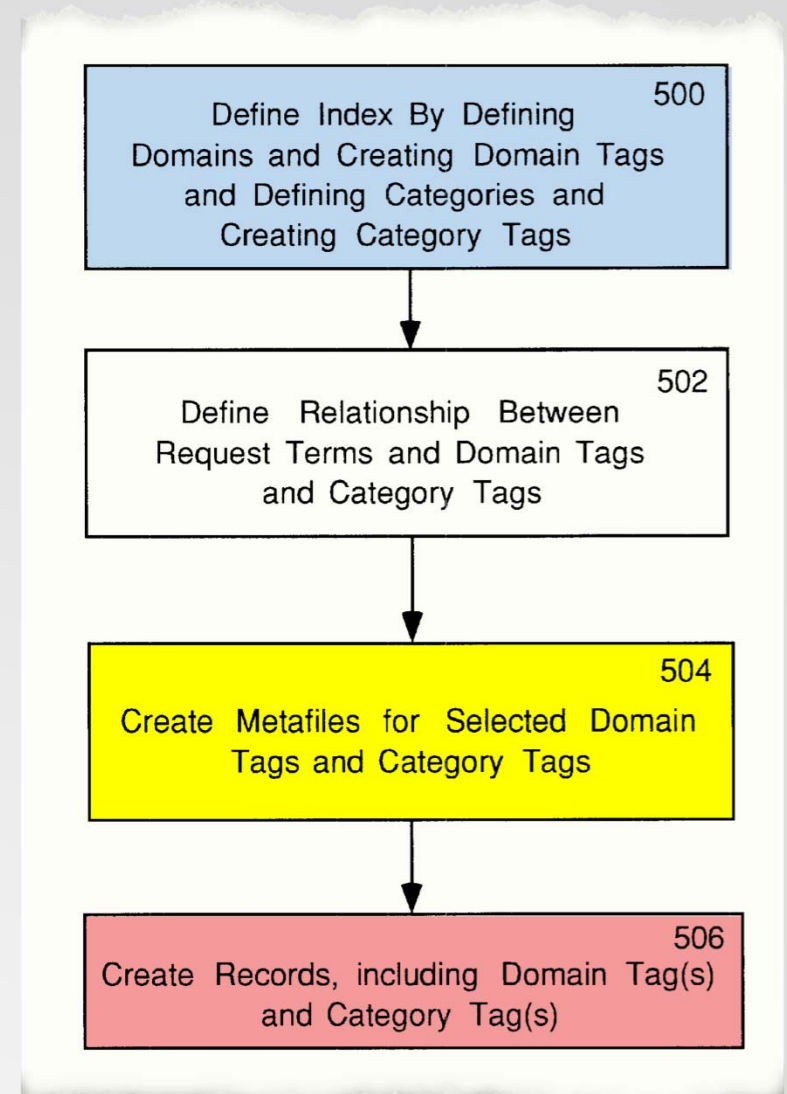
1. A method for creating a database and an index to search the database, comprising the steps of:

creating the index by defining a plurality of XML tags including domain tags and category tags;

creating a first metafile that corresponds to a first domain tag; and

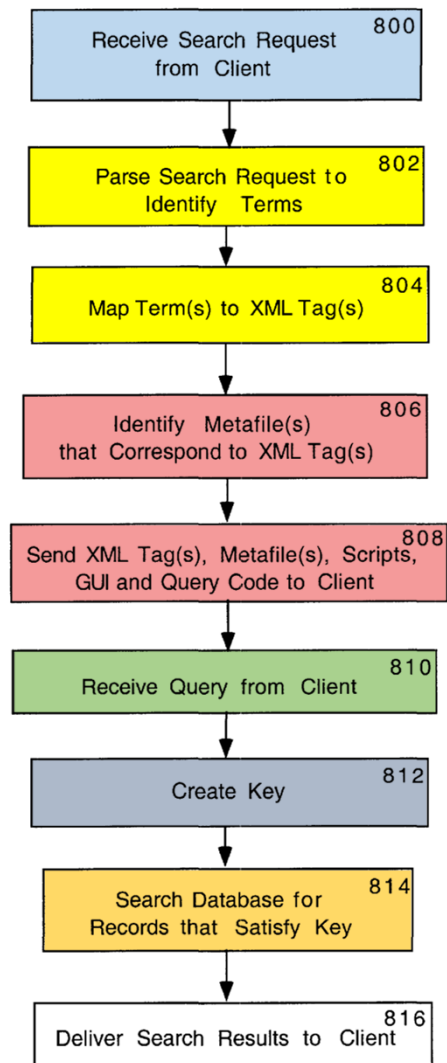
creating the database by providing a plurality of records, each record having an XML index component.

'434 Patent, Claim 1



'434 Patent, Fig. 5

Searching



'434 Patent, Fig. 8

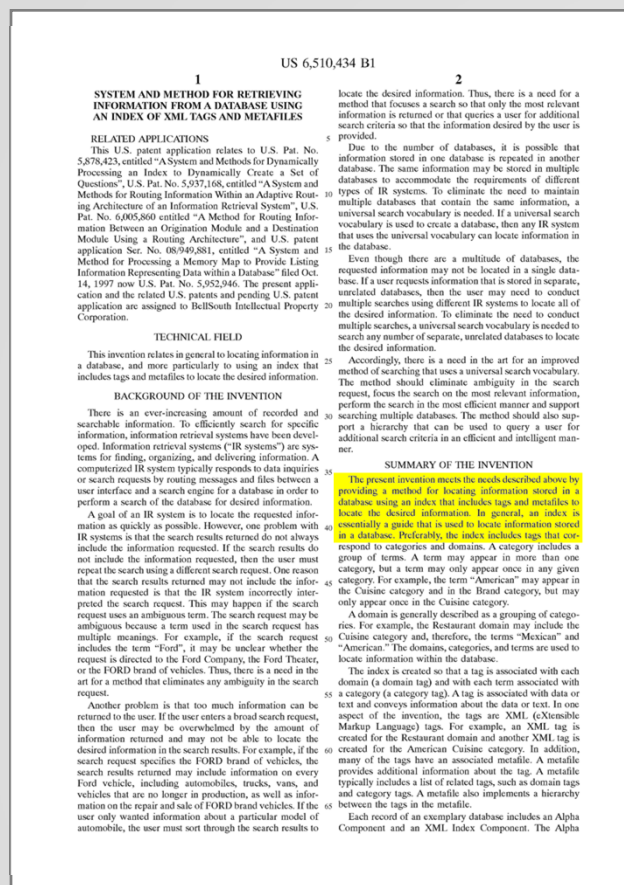
Representative Claim 7

7. A method for searching a database of records using an index including a plurality of tags, comprising the steps of:
receiving a request for information;
identifying a first tag that is associated with the request;
determining whether a first metafile comprising a second tag corresponds to the first tag;
if the first metafile corresponds to the first tag, then determining whether the second tag is relevant to the request;
if the second tag is relevant to the request, then combining the first tag and the second tag to create a key; and
using the key to search the database to locate at least one record that includes the first tag and the second tag.

'434 Patent, Claim 7

Alice Step 1: Abstract Idea

- Patent is directed to the abstract idea of creating an index by associating information with categories and using it to search a database



The present invention meets the needs described above by providing a method for locating information stored in a database using an index that includes tags and metafiles to locate the desired information. In general, an index is essentially a guide that is used to locate information stored in a database. Preferably, the index includes tags that cor-

'434 Patent, 2:35-41

Alice Step 1: Abstract Idea (cont.)

- Organizing and searching for data in a database is abstract
 - *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1344 (Fed. Cir. 2013) (affirming invalidity of patent claiming computer systems comprising a database that “stores, retrieves and manipulates data.”)
 - *Enfish, LLC v. Microsoft Corp.*, -- F. Supp. 3d --, 2014 WL 5661456, at *1 (C.D. Cal. Nov. 3, 2014) (invalidating patent related to “an information management and database system” and “index structure . . . for searching”)
 - *Wolf v. Capstone Photography, Inc.*, 2014 WL 7639820, No. 2:13-cv-09573 (C.D. Cal. Oct. 28, 2014) (invalidating patent directed to organizing, storing, and retrieving images using a database).
 - *Cyberfone*, 558 F. App’x 988, 992 (Fed. Cir. 2014) (confirming that “using categories to organize, store, and transmit information” is abstract)

Alice Step 2: No Inventive Concept

Claim Term	Patent Disclosure
XML tagging	<p>and metafiles. XML is a syntax for creating a markup language that uses a set of tags. XML is a subset of the Standard Generalized Markup Language (SGML). The XML standard is maintained by the World Wide Web Consortium (W³C).</p> <p>'434 Patent, 8:67-9:4</p>
Indexing or organizing data	<p>The index 37 is essentially a guide to the records of the database 40. The index includes a number of tags and</p> <p>'434 Patent, 7:18-19</p>
No other computer hardware or software added	<p>Referring now to FIG. 1A, an exemplary computer system for implementing the present invention includes a conventional computer 20, including a processor 21, a system memory 22, and a system bus 23 that couples the system memory 22 to the processor 21. Although not shown in FIG.</p> <p>As with most conventional computer systems, a user may enter commands and information into the computer 20 through a keyboard (not shown) and an input or pointing device, such as a mouse (not shown). These and other input</p> <p>'434 Patent, 5:5-9</p> <p>'434 Patent, 5:61-64</p>

Alice Step 2: No Inventive Concept (cont.)

- Invention does not alter or improve upon the preexisting database technology
- XML tagging existed previously
- Indices existed previously

Claims Need Not Be Construed

- The claim terms identified by IV as needing construction are defined in the specification.

Claim Term	Patent Disclosure
“XML tags”	<p>In the exemplary embodiment discussed herein, the index includes a set of eXtensible Markup Language (XML) tags and metafiles. XML is a syntax for creating a markup language that uses a set of tags. XML is a subset of the</p> <p>'434 Patent, 8:65-9:1</p>
“metafile”	<p>many of the tags have an associated metafile. A metafile includes a list of related tags, such as related domain tags, category tags and hierarchy tags. A hierarchy tag establishes</p> <p>'434 Patent, 4:40-42</p>

Claims Need Not Be Construed (cont.)

Claim Term	Patent Disclosure
<p>“XML index component”</p>	<p>Component and an XML Index Component. The Alpha Component contains identifying information for the record and the XML Index Component includes XML tags that are associated with the record. When a search request is</p> <p style="text-align: right;">’434 Patent, 3:2-3</p>

Claims Need Not Be Construed (cont.)

Claim Term	Patent Disclosure
<p>“key to search the database”</p>	<p>associated with the record. When a search request is received, a set of tags that correspond to the request are identified. The set of tags is compiled as a key and is used to search the database to locate records that include the set of tags.</p> <p>'434 Patent, 3:3-7</p>
<p>“query code”</p>	<p>the server in step 702. The client then receives XML tags and metafiles that correspond to the search request, as well as query code from the server in step 704. In one embodiment, the query code is written in the JAVA programming language and prompts the user for additional information via pop-up windows. The query code uses the XML tags and the metafiles received from the server to formulate the necessary queries to the user. The query code is executed on the client in step 706. Once the query code is executed, the query</p> <p>'434 Patent, 14:38-46</p>

Analysis of Each Claim

- Defendants analyzed each and every claim in their opening brief

Claim	Analysis in Erie/Highmark's Opening Brief (Dkt. 46-1)
Independent Claim 1	Page 15
Independent Claims 7, 14, 19, 25, 27	Pages 16-17
Dependent Claims 4, 13, 18, 26	Page 17, Footnote 11
Dependent Claims 8, 9, 10, 11, 15, 16, 17, 24, 28	Page 17, Footnote 12
Claims 2, 3, 5, 6, 12, 20, 21, 23	Page 17, Footnote 13

Insufficient Pleading of Direct Infringement Claims

IV's Complaint Is Insufficient

- Rather than identify accused products—as required by Rule 8 and Form 18—IV's complaint merely parrots back language from the patent.

Products Accused of Infringing

the United States, without Intellectual Ventures I's authority, their computer systems that use the patented systems and methods for identifying and characterizing errant electronic files. By way

Erie Matter, Complaint ¶ 42

Title of '298 Patent

**METHOD AND APPARATUS FOR
IDENTIFYING AND CHARACTERIZING
ERRANT ELECTRONIC FILES**

'298 Patent, Title

IV's Complaint Is Insufficient (cont.)

- Form 18 Does Not Relax the *Iqbal* and *Twombly* Standard
 - “Form 18 in no way relaxes the clear principle of Rule 8, that a potential infringer be placed on notice of what activity or device is being accused of infringement.” *K-Tech Telecomms., Inc. v. Time Warner Cable, Inc.*, 714 F.3d 1277, 1284 (Fed. Cir. 2013).

Form 18. Complaint for Patent Infringement.

(Caption – See Form 1.)

1. (Statement of Jurisdiction — See Form 7.)

2. On date, United States Letters Patent No. _____ were issued to the plaintiff for an invention in an electric motor. The plaintiff owned the patent throughout the period of the ~~defendant's infringing acts and still owns the patent~~

3. **The defendant has infringed and is still infringing the Letters Patent by making, selling, and using electric motors, that embody the patented invention, and the defendant will continue to do so unless enjoined by this court.**

4. The plaintiff has complied with the statutory requirement of placing a notice of the Letters Patent on all electric motors it manufactures and sells and has given the defendant written notice of the infringement.

Therefore, the plaintiff demands:

- (a) a preliminary and final injunction against the continuing infringement;
- (b) an accounting for damages; and
- (c) interest and costs.

'581 Allegations

Highmark Complaint	Erie Complaint	Old Republic Complaint
<p>“computer systems that use the patented systems and methods for configuration management,” including Highmark’s “implementation and use of its back-end configuration management and distribution software and services.” Dkt. 1, ¶ 28.</p>	<p>“computer systems that use the patented systems and methods for configuration management,” including Erie’s “implementation and use of its back-end configuration management and distribution software and services.” Dkt. 1, ¶ 30.</p>	<p>“computer systems that use the patented systems and methods for configuration management,” including Old Republic’s “implementation and use of its back-end configuration management and distribution software and services.” Dkt. 1, ¶ 29.</p>

'002 Allegations

Highmark Complaint	Erie Complaint	Old Republic Complaint
<p>“computer systems that use the patented systems and methods for displaying user specific resources on a mobile interface,” including Highmark’s “implementation and use of its HM QuickQuote application.” Dkt. 1, ¶ 32.</p>	<p>“computer systems that use the patented systems and methods for displaying user-specific resources on a mobile interface,” including Erie’s “implementation and use of its ERIEmobile [sic] application.” Dkt. 1, ¶ 34.</p>	<p>“computer systems that use the patented systems and methods for displaying user specific resources on a mobile interface,” including Old Republic’s “implementation and use of its OR Mobile application.” Dkt. 1, ¶ 33.</p>

'434 Allegations

Highmark Complaint	Erie Complaint	Old Republic Complaint
<p>“computer systems that use the patented systems and methods for searching databases with metafiles,” including Highmark’s “implementation and use of database services and systems that return information based on the content of metafiles.” Dkt. 1, ¶ 36.</p>	<p>“computer systems that use the patented systems and methods for searching databases with metafiles,” including Erie’s “implementation and use of database services and systems that return information based on the content of metafiles.” Dkt. 1, ¶ 38.</p>	<p>“computer systems that use the patented systems and methods for searching databases with metafiles,” including Old Republic’s “implementation and use of database services and systems that return information based on the content of metafiles.” Dkt. 1, ¶ 37.</p>

'298 Allegations

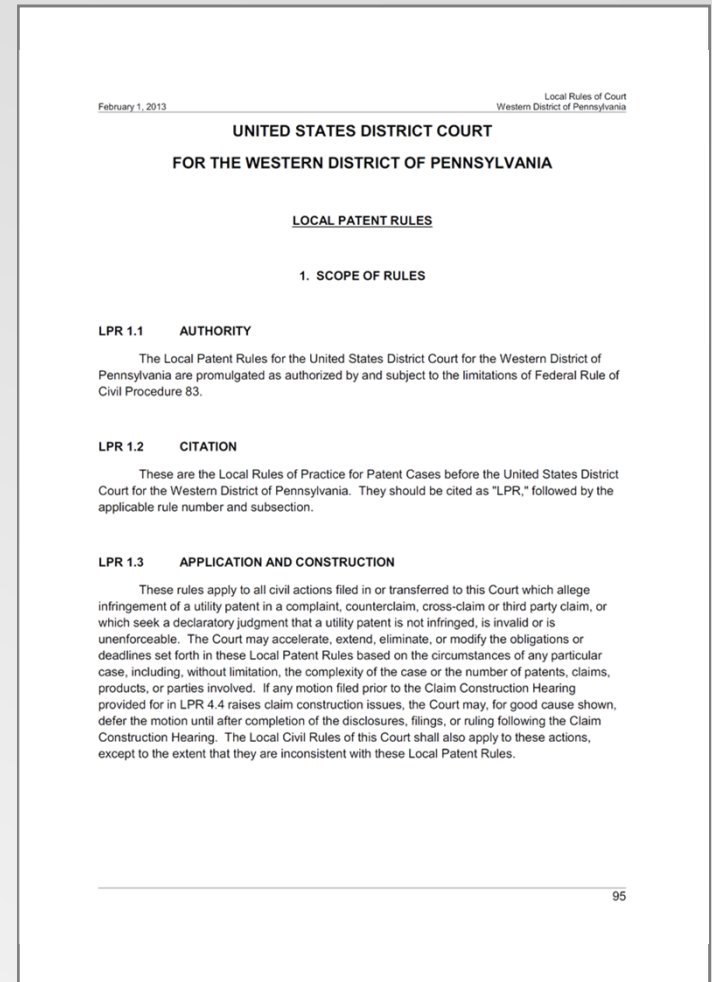
Highmark Complaint	Erie Complaint	Old Republic Complaint
NA	<p>“computer systems that use the patented systems and methods for identifying and characterizing errant electronic files,” including Erie’s “implementation and use of software and services that search and identify potentially malicious information.”</p> <p>Dkt. 1, ¶ 42.</p>	NA

IV's Complaint Is Insufficient (cont.)

- This circular pleading strategy is insufficient under the Federal Rules:
 - *Fifth Mkt., Inc. v. CME Grp., Inc.*, 2009 WL 5966836, at *1 (D. Del. May 14, 2009)
 - *Interval Licensing LLC v. AOL, Inc.*, 2010 WL 5058620, at *2 (W.D. Wash. Dec. 10, 2010)
 - *Realtime Data, LLC v. Stanley*, 721 F. Supp. 2d 538, 539, 543 (E.D. Tex. 2010)
 - *Macronix Int'l Co. v. Spansion Inc.*, 4 F. Supp. 3d 797, 804 (E.D. Va. 2014)

IV's Complaint Is Insufficient (cont.)

- Local Patent Rules Disclosure Schedule
 - 14 days after Rule 26(f) conference (LPR 3.1):
 - Initial Disclosures
 - Production of documents
 - Production of source code
 - Production of schematics
 - All prior art
 - 30 days after Rule 26(f) conference (LPR 3.2):
 - IV's disclosure of asserted claims and infringement contentions



Appendix

'581 Patent Claims

Independent Claim 11

US 6,519,581 B1

11
transmitting a discovery rule across a communication link
to a computer system, wherein the discovery rule is to
be applied to data about the computer system or a user
to generate information, and wherein the data is col-
lected by a discovery agent located in the computer
system, and
receiving the information from the computer system.
2. The method of claim 1, further including receiving a
user request prior to transmitting the discovery rule and
wherein the transmitting the discovery rule is without requir-
ing action by the user.
3. The method of claim 2, wherein the user request is for
assistance regarding the computer system.
4. The method of claim 2, wherein the transmitting of the
discovery rule is from a remote individual receiving the user
request.
5. The method of claim 2, further including providing
assistance to the user regarding the computer system after
receiving the information.
6. The method of claim 1, wherein the discovery rule is
transmitted automatically when the computer system estab-
lishes a connection with a server.
7. The method of claim 1, further including transmitting
the discovery agent across the communication link to the
computer system and the discovery agent and discovery rule
are separate code sequences.
8. The method of claim 1, wherein the discovery agent is
activated to collect the data when the discovery rule requires
the data.
9. The method of claim 1, wherein the discovery agent is
activated to collect the data according to a schedule.
10. The method of claim 1, wherein the discovery agent
passively collects the data.
11. In a computer system, method of collecting informa-
tion comprising:
receiving a discovery rule across a communication link
from a sender,
applying the discovery rule to data about the computer
system or a user to generate information, and wherein
the data is collected by a discovery agent located in the
computer system when the discovery agent is activated
and without requiring action by the user; and
communicating the information across the communica-
tion link back to the sender of the discovery rule.
12. The method of claim 11, further including making a
user request regarding the computer system and the receiv-
ing of the discovery rule is in response to the request.
13. The method of claim 12, wherein the user request is
for assistance regarding the computer system.
14. The method of claim 12, wherein the user request is
made to a remote individual sender of the discovery rule.
15. The method of claim 13, further including receiving
assistance regarding the computer system after commu-
nicating the information.
16. The method of claim 11, further including receiving
the discovery agent across the communication link and the
discovery agent and discovery rule are separate code
sequences.
17. The method of claim 11, wherein the discovery agent
is activated to collect the data when the discovery rule
requires the data.
18. The method of claim 11, wherein the discovery agent
is activated to collect the data according to a schedule.
19. The method of claim 11, wherein the discovery agent
passively collects the data.
20. A method of collecting information, the method
comprising:

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receiving a user request regarding the computer system;
transmitting a discovery rule across a communication link
to a computer system, wherein the discovery rule is to
be applied to data about the computer system or a user
to generate information, and wherein the data is col-
lected by a discovery agent located in the computer
system when the discovery agent is actuated and with-
out requiring action by the user;
receiving the information from the computer system; and
providing the user with a response to the user request.
21. The method of claim 20, wherein the user request is
for assistance regarding the computer system.
22. The method of claim 21, further including providing
assistance to the user regarding the computer system after
receiving the information.
23. The method of claim 20, wherein the transmitting of
the discovery rule is from a remote individual receiving the
user request.
24. The method of claim 20, wherein the discovery rule is
transmitted automatically when the computer system estab-
lishes a connection with a server.
25. The method of claim 20, further including transmit-
ting the discovery agent across the communication link to
the computer system and the discovery agent and discovery
rule are separate code sequences.
26. The method of claim 20, wherein the discovery agent
is activated to collect the data when the discovery rule
requires the data.
27. The method of claim 20, wherein the discovery agent
is activated to collect the data according to a schedule.
28. The method of claim 20, wherein the discovery agent
passively collects the data.
29. A computer readable medium having stored therein a
plurality of sequences of executable instructions, which,
when executed by a processor, cause the system to:
transmit a discovery rule across a communication link to
a computer system, wherein the discovery rule is to be
applied to data about the computer system or a user to
generate information, and wherein the data is collected
by a discovery agent located in the computer system,
and
receive the information from the computer system.
30. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to receive a user request prior to transmitting the
discovery rule and wherein the transmitting the discovery
rule is without requiring action by the user.
31. The computer readable medium of claim 30, wherein
the user request is for assistance regarding the computer
system.
32. The computer readable medium of claim 29, wherein
the transmitting of the discovery rule is from a remote
individual receiving the user request.
33. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to provide assistance to the user regarding the
computer system after receiving the information.
34. The computer readable medium of claim 29, wherein
the discovery rule is transmitted automatically when the
computer system establishes a connection with a server.
35. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to transmit the discovery agent across the commu-

11. In a computer system, method of collecting informa-
tion comprising:

receiving a discovery rule across a communication link
from a sender,

applying the discovery rule to data about the computer
system or a user to generate information, and wherein
the data is collected by a discovery agent located in the
computer system when the discovery agent is activated
and without requiring action by the user; and
communicating the information across the communica-
tion link back to the sender of the discovery rule.

'581 Patent, Claim 11

Independent Claim 20

US 6,519,581 B1

11 transmitting a discovery rule across a communication link
to a computer system, wherein the discovery rule is to
be applied to data about the computer system or a user
to generate information, and wherein the data is col-
lected by a discovery agent located in the computer
system, and
receiving the information from the computer system.
2. The method of claim 1, further including receiving a
user request prior to transmitting the discovery rule and
wherein the transmitting the discovery rule is without requir-
ing action by the user.
3. The method of claim 2, wherein the user request is for
assistance regarding the computer system.
4. The method of claim 2, wherein the transmitting of the
discovery rule is from a remote individual receiving the user
request.
5. The method of claim 2, further including providing
assistance to the user regarding the computer system after
receiving the information.
6. The method of claim 1, wherein the discovery rule is
transmitted automatically when the computer system estab-
lishes a connection with a server.
7. The method of claim 1, further including transmitting
the discovery agent across the communication link to the
computer system and the discovery agent and discovery
rule are separate code sequences.
8. The method of claim 1, wherein the discovery agent is
activated to collect the data when the discovery rule requires
the data.
9. The method of claim 1, wherein the discovery agent is
activated to collect the data according to a schedule.
10. The method of claim 1, wherein the discovery agent
passively collects the data.
11. In a computer system, method of collecting informa-
tion comprising:
receiving a discovery rule across a communication link
from a sender,
applying the discovery rule to data about the computer
system or a user to generate information, and wherein
the data is collected by a discovery agent located in the
computer system when the discovery agent is activated
and without requiring action by the user; and
communicating the information across the communica-
tion link back to the sender of the discovery rule.
12. The method of claim 11, further including making a
user request regarding the computer system and the receiv-
ing of the discovery rule is in response to the request.
13. The method of claim 12, wherein the user request is
for assistance regarding the computer system.
14. The method of claim 12, wherein the user request is
made to a remote individual sender of the discovery rule.
15. The method of claim 13, further including receiving
assistance regarding the computer system after commu-
nicating the information.
16. The method of claim 11, further including receiving
the discovery agent across the communication link and the
discovery agent and discovery rule are separate code
sequences.
17. The method of claim 11, wherein the discovery agent
is activated to collect the data when the discovery rule
requires the data.
18. The method of claim 11, wherein the discovery agent
is activated to collect the data according to a schedule.
19. The method of claim 11, wherein the discovery agent
passively collects the data.
20. A method of collecting information, the method
comprising:

12

receiving a user request regarding the computer system;
transmitting a discovery rule across a communication link
to a computer system, wherein the discovery rule is to
be applied to data about the computer system or a user
to generate information, and wherein the data is col-
lected by a discovery agent located in the computer
system when the discovery agent is actuated and with-
out requiring action by the user;
receiving the information from the computer system; and
providing the user with a response to the user request.
21. The method of claim 20, wherein the user request is
for assistance regarding the computer system.
22. The method of claim 21, further including providing
assistance to the user regarding the computer system after
receiving the information.
23. The method of claim 20, wherein the transmitting of
the discovery rule is from a remote individual receiving the
user request.
24. The method of claim 20, wherein the discovery rule is
transmitted automatically when the computer system estab-
lishes a connection with a server.
25. The method of claim 20, further including transmit-
ting the discovery agent across the communication link to
the computer system and the discovery agent and discovery
rule are separate code sequences.
26. The method of claim 20, wherein the discovery agent
is activated to collect the data when the discovery rule
requires the data.
27. The method of claim 20, wherein the discovery agent
is activated to collect the data according to a schedule.
28. The method of claim 20, wherein the discovery agent
passively collects the data.
29. A computer readable medium having stored therein a
plurality of sequences of executable instructions, which,
when executed by a processor, cause the system to:
transmit a discovery rule across a communication link to
a computer system, wherein the discovery rule is to be
applied to data about the computer system or a user to
generate information, and wherein the data is collected
by a discovery agent located in the computer system,
and
receive the information from the computer system.
30. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to receive a user request prior to transmitting the
discovery rule and wherein the transmitting the discovery
rule is without requiring action by the user.
31. The computer readable medium of claim 30, wherein
the user request is for assistance regarding the computer
system.
32. The computer readable medium of claim 29, wherein
the transmitting of the discovery rule is from a remote
individual receiving the user request.
33. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to provide assistance to the user regarding the
computer system after receiving the information.
34. The computer readable medium of claim 29, wherein
the discovery rule is transmitted automatically when the
computer system establishes a connection with a server.
35. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to transmit the discovery agent across the commu-

20. A method of collecting information, the method comprising:

receiving a user request regarding the computer system;

transmitting a discovery rule across a communication link

to a computer system, wherein the discovery rule is to

be applied to data about the computer system or a user

to generate information, and wherein the data is col-

lected by a discovery agent located in the computer

system when the discovery agent is actuated and with-

out requiring action by the user;

receiving the information from the computer system; and

providing the user with a response to the user request.

'581 Patent, Claim 20

Independent Claim 29

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11 transmitting a discovery rule across a communication link
to a computer system, wherein the discovery rule is to
be applied to data about the computer system or a user
to generate information, and wherein the data is col-
lected by a discovery agent located in the computer
system, and
receiving the information from the computer system.
2. The method of claim 1, further including receiving a
user request prior to transmitting the discovery rule and
wherein the transmitting the discovery rule is without requir-
ing action by the user.
3. The method of claim 2, wherein the user request is for
assistance regarding the computer system.
4. The method of claim 2, wherein the transmitting of the
discovery rule is from a remote individual receiving the user
request.
5. The method of claim 2, further including providing
assistance to the user regarding the computer system after
receiving the information.
6. The method of claim 1, wherein the discovery rule is
transmitted automatically when the computer system estab-
lishes a connection with a server.
7. The method of claim 1, further including transmitting
the discovery agent across the communication link to the
computer system and the discovery agent and discovery rule
are separate code sequences.
8. The method of claim 1, wherein the discovery agent is
activated to collect the data when the discovery rule requires
the data.
9. The method of claim 1, wherein the discovery agent is
activated to collect the data according to a schedule.
10. The method of claim 1, wherein the discovery agent
passively collects the data.
11. In a computer system, method of collecting informa-
tion comprising:
receiving a discovery rule across a communication link
from a sender,
applying the discovery rule to data about the computer
system or a user to generate information, and wherein
the data is collected by a discovery agent located in the
computer system when the discovery agent is activated
and without requiring action by the user; and
communicating the information across the communica-
tion link back to the sender of the discovery rule.
12. The method of claim 11, further including making a
user request regarding the computer system and the receiv-
ing of the discovery rule is in response to the request.
13. The method of claim 12, wherein the user request is
for assistance regarding the computer system.
14. The method of claim 12, wherein the user request is
made to a remote individual sender of the discovery rule.
15. The method of claim 13, further including receiving
assistance regarding the computer system after communi-
cating the information.
16. The method of claim 11, further including receiving
the discovery agent across the communication link and the
discovery agent and discovery rule are separate code
sequences.
17. The method of claim 11, wherein the discovery agent
is activated to collect the data when the discovery rule
requires the data.
18. The method of claim 11, wherein the discovery agent
is activated to collect the data according to a schedule.
19. The method of claim 11, wherein the discovery agent
passively collects the data.
20. A method of collecting information, the method
comprising:

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receiving a user request regarding the computer system;
transmitting a discovery rule across a communication link
to a computer system, wherein the discovery rule is to
be applied to data about the computer system or a user
to generate information, and wherein the data is col-
lected by a discovery agent located in the computer
system when the discovery agent is actuated and with-
out requiring action by the user;
receiving the information from the computer system; and
providing the user with a response to the user request.
21. The method of claim 20, wherein the user request is
for assistance regarding the computer system.
22. The method of claim 21, further including providing
assistance to the user regarding the computer system after
receiving the information.
23. The method of claim 20, wherein the transmitting of
the discovery rule is from a remote individual receiving the
user request.
24. The method of claim 20, wherein the discovery rule is
transmitted automatically when the computer system estab-
lishes a connection with a server.
25. The method of claim 20, further including transmit-
ting the discovery agent across the communication link to
the computer system and the discovery agent and discovery
rule are separate code sequences.
26. The method of claim 20, wherein the discovery agent
is activated to collect the data when the discovery rule
requires the data.
27. The method of claim 20, wherein the discovery agent
is activated to collect the data according to a schedule.
28. The method of claim 20, wherein the discovery agent
passively collects the data.
29. A computer readable medium having stored therein a
plurality of sequences of executable instructions, which,
when executed by a processor, cause the system to:
transmit a discovery rule across a communication link to
a computer system, wherein the discovery rule is to be
applied to data about the computer system or a user to
generate information, and wherein the data is collected
by a discovery agent located in the computer system,
and
receive the information from the computer system.
30. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to receive a user request prior to transmitting the
discovery rule and wherein the transmitting the discovery
rule is without requiring action by the user.
31. The computer readable medium of claim 30, wherein
the user request is for assistance regarding the computer
system.
32. The computer readable medium of claim 29, wherein
the transmitting of the discovery rule is from a remote
individual receiving the user request.
33. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to provide assistance to the user regarding the
computer system after receiving the information.
34. The computer readable medium of claim 29, wherein
the discovery rule is transmitted automatically when the
computer system establishes a connection with a server.
35. The computer readable medium of claim 29, further
including additional sequences of executable instructions,
which when executed by the processor further cause the
system to transmit the discovery agent across the commu-

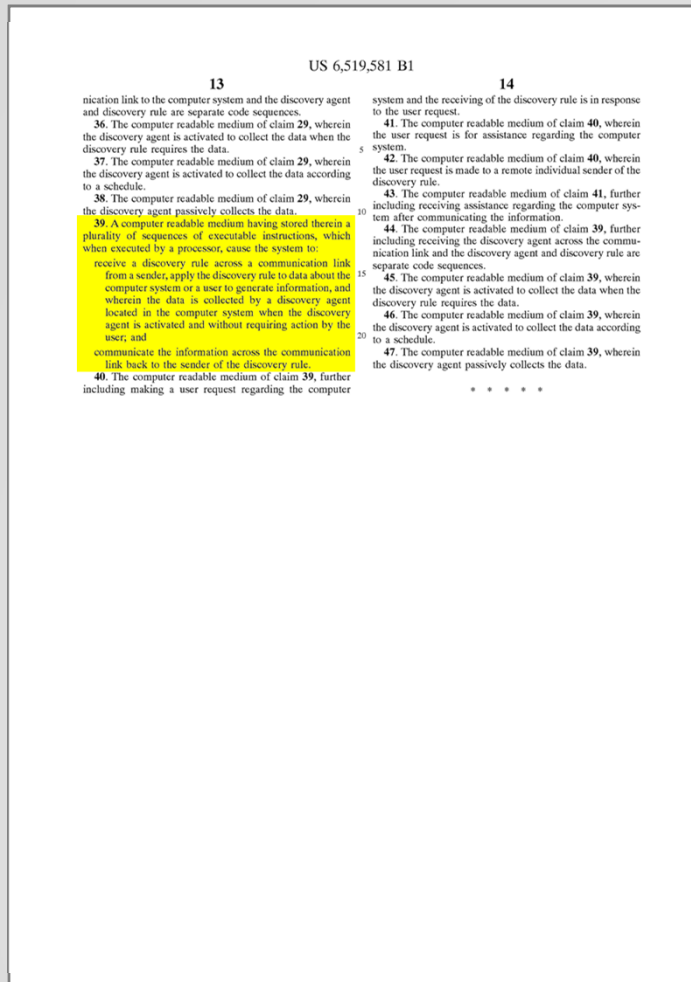
29. A computer readable medium having stored therein a plurality of sequences of executable instructions, which, when executed by a processor, cause the system to:

transmit a discovery rule across a communication link to a computer system, wherein the discovery rule is to be applied to data about the computer system or a user to generate information, and wherein the data is collected by a discovery agent located in the computer system, and

receive the information from the computer system.

'581 Patent, Claim 29

Independent Claim 39



39. A computer readable medium having stored therein a plurality of sequences of executable instructions, which when executed by a processor, cause the system to:

receive a discovery rule across a communication link from a sender, apply the discovery rule to data about the computer system or a user to generate information, and wherein the data is collected by a discovery agent located in the computer system when the discovery agent is activated and without requiring action by the user; and

communicate the information across the communication link back to the sender of the discovery rule.

'581 Patent, Claim 39

Dependent Claims

- “Partial Automation” Limitations
 - Dependent claims 2, 6, 10, 19, 24, 28, 30, 34, 38, and 47
 - Discovery rules automatically transmitted to computer system being monitored (e.g., claims 2, 6)
 - Discovery agents automatically collect data (e.g., claim 10)
 - Automation of a process is insufficient to transform that process into a patent-eligible application of the underlying idea. *See Accenture*, 800 F. Supp. 2d 613, 616, 621 (D. Del. 2011), *aff’d*, 728 F.3d 1336.
 - Computers are, by definition, “automatic electronic device[s] for performing mathematical or logical operations.” *Bancorp Servs.*, 687 F.3d at 1277.

Dependent Claims (cont.)

- “Technical Assistance” Limitations
 - Dependent claims 3, 5, 13, 15, 21-22, 31, 33, 41, and 43
 - Using invention to obtain “assistance regarding the computer system” (e.g., claim 3)
 - “Technical assistance” is provided after receiving collected information (e.g., claim 5)
 - “[L]imiting an abstract idea to one field of use” or application does “not make the concept patentable.” *Bilski v. Kappos*, 561 U.S. 593, 612 (2010).

Dependent Claims (cont.)

- “Origin of Rule” Limitations
 - Dependent Claims 4, 14, 23, 32, and 42
 - Rule originates from “a remote individual” receiving a request (e.g., claim 4)
 - These limitations are token pre-solution activities, which are “normally not sufficient to transform an unpatentable law of nature into a patent-eligible application of such a law.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1298 (2012).
 - Limitations do not provide any additional detail about the rules themselves

Dependent Claims (cont.)

- “Discovery Rules as Separate Code Sequences” Limitations
 - Dependent claims 7, 16, 25, 35, and 44
 - A “computer [that] receives and sends . . . information over a network— with no further specification—is not even arguably inventive.” *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

Dependent Claims (cont.)

- “Collect Data When it is Needed” Limitations
 - Dependent Claims 8-9, 12, 17-18, 26-27, 36-37, 40, and 45-46
 - Data collected in response to user request (claims 12, 40)
 - Data collected when discovery rule requires such data (claims 8, 17, 26, 36, 46)
 - Data collected according to schedule (claims 9, 18, 27, 37, 46)
 - Collecting information in response to a request or when the computer system requires such information does not give rise to an inventive concept. *See buySAFE*, 765 F.3d at 1355.

'434 Patent Claims

Independent Claim 14

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identifying a second tag that is associated with the request by determining that the second tag is included in a metafile associated with the first tag; combining the first tag and the second tag to create a key;

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XML tag, and wherein the step of using the key to search the database to locate records including the first set of XML tags comprises:

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used to search the database for records that include the XML tags in the key in step 814. Finally, the search results are delivered to the client in step 816.

Conclusion

In summary, the present invention is directed toward a method for locating information stored in a database using an index that includes tags and metafiles. Preferably, the index includes tags that correspond to categories and domains. An information request is parsed to identify the terms in the request. The terms are predetermined and generally correspond to the domains and categories of the index. The terms are mapped to tags. Once the appropriate tags are identified, then the metafiles that correspond to those tags are identified. The metafiles can be used to identify additional tags that are relevant to the search. The identified tags are combined to create a unique key. The key is used to search the database to locate records that include the tags in their index component. Once the records are located, the records are delivered to the requesting user or search agent. Although the present invention has been described in connection with the XML language, those skilled in the art will realize that the invention can also be practiced using other languages that use tags and support the association of a file, such as a metafile with a tag.

The present invention has been described in connection with information organized as a classified advertising or e-commerce directory. However, those skilled in the art will recognize that the invention is not limited to information organized as a classified advertising or e-commerce directory. For example, the invention can be used with information organized around a trade name or brand, or any other type of organization.

Alternative embodiments will be apparent to those skilled in the art to which the present invention pertains without departing from its spirit and scope. Accordingly, the scope of the present invention is described by the appended claims and is supported by the foregoing description.

What is claimed is:

1. A method for creating a database and an index to search the database, comprising the steps of:

creating the index by defining a plurality of XML tags including domain tags and category tags;

creating a first metafile that corresponds to a first domain tag; and

creating the database by providing a plurality of records, each record having an XML index component.

2. The method of claim 1, wherein the step of creating the database by providing a plurality of records, comprises the step of:

for each record, creating an alpha portion of the record that comprises identifying information for the record; and

for each record, creating the XML index component by selecting from the defined XML tags a selected set of XML tags that are associated with the record.

3. The method of claim 1, wherein the step of creating a first metafile, comprises the steps of:

selecting a first set of domain tags from the defined XML tags that are related to the first domain tag; and

selecting a first set of category tags from the defined XML tags that are related to the first domain tag.

4. The method of claim 3, wherein the first domain tag is related to a first product and the first set of domain tags includes a selected domain tag that identifies a second product related to the first product so that the second product is marketed to a user when information related to the first product is provided to the user.

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5. The method of claim 3, further comprising the step of: creating a hierarchy between the tags in the metafile.

6. The method of claim 1, wherein the step of creating a first metafile comprises the steps of:

selecting a first set of XML tags from the defined XML tags that are related to the first domain tag; and

creating a hierarchy between the tags in the first set of XML tags.

7. A method for searching a database of records using an index including a plurality of tags, comprising the steps of:

receiving a request for information;

identifying a first tag that is associated with the request; determining whether a first metafile comprising a second tag corresponds to the first tag;

if the first metafile corresponds to the first tag, then determining whether the second tag is relevant to the request;

if the second tag is relevant to the request, then combining the first tag and the second tag to create a key; and

using the key to search the database to locate at least one record that includes the first tag and the second tag.

8. The method of claim 7, wherein the step of identifying a first tag that is associated with the request, comprises the steps of:

parsing the request to identify a first term; and

identifying the first tag that corresponds to the first term.

9. The method of claim 8, further comprising the steps of:

identifying a third tag that corresponds to the first term; determining whether the first tag and the third tag indicate that the request is ambiguous;

if the first tag and the third tag indicate that the request is ambiguous, then determining whether the first tag is related to the request; and

if the first tag is related to the request, then using only the first tag to create the key.

10. The method of claim 9, further comprising the steps of:

if the first tag and the third tag do not indicate that the request is ambiguous, then using the first tag and the third tag to create the key.

11. The method of claim 7, wherein the first metafile includes a fourth tag, further comprising the steps of:

determining whether the second tag and the fourth tag indicate that the request is ambiguous;

if the second tag and the fourth tag indicate that the request is ambiguous, then determining whether the second tag is related to the request; and

if the second tag is related to the request, then using only the second tag to create the key.

12. The method of claim 7, wherein the plurality of tags include a plurality of category tags and a plurality of domain tags, each category tag associated with a term that provides information and each domain tag associated with a group of category tags.

13. The method of claim 12, wherein the category tags include a brand tag, a cuisine tag, a payment option tag, and an amenity tag.

14. A computer-readable medium having stored thereon computer-executable instructions for searching a database of records using an index including a plurality of tags, comprising the steps of:

receiving a request for information;

identifying a first tag that is associated with the request;

14. A computer-readable medium having stored thereon computer-executable instructions for searching a database of records using an index including a plurality of tags, comprising the steps of:

receiving a request for information;

identifying a first tag that is associated with the request;

identifying a second tag that is associated with the request by determining that the second tag is included in a metafile associated with the first tag;

combining the first tag and the second tag to create a key; and

using the key to search the database to locate records including the first tag and the second tag.

'434 Patent, Claim 14

Independent Claim 19

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17 identifying a second tag that is associated with the request by determining that the second tag is included in a metafile associated with the first tag; combining the first tag and the second tag to create a key; and using the key to search the database to locate records including the first tag and the second tag.

18 15. The computer-readable medium of claim 14, further comprising the steps of: determining whether the first tag and the second tag indicate that the request is ambiguous; if the first tag and the second tag indicate that the request is ambiguous, then conducting a query to determine whether the first tag or the second tag is relevant to the request; if the determination is that the first tag is relevant to the request, then using the first tag, but not the second tag to create the key; and using the key to search the database to locate records including the first tag, but not the second tag.

19 16. The computer-readable medium of claim 14, wherein the request includes a first term, and wherein the step of identifying a first tag that is associated with the request, comprises: identifying the first term in the request; and matching the first term to the first tag.

20 17. The computer-readable medium of claim 14, wherein the metafile includes a third tag, further comprising the steps of: if the first tag and the second tag do not indicate that the request is ambiguous, then combining the first tag, the second tag, and the third tag to create a key; and using the key to search the database to locate records including the first tag, the second tag, and the third tag.

21 18. The computer-readable medium of claim 14, wherein the plurality of tags include a plurality of domain tags and a plurality of category tags, and wherein each domain tag identifies a group of selected category tags and each category tag identifies a group of terms providing business information.

22 19. A method for searching a database of information, comprising the steps of: receiving a request for information from a client, the request having a first term; identifying a first XML tag that is associated with the first term; determining whether a first metafile corresponds to the first XML tag; if the first metafile corresponds to the first XML tag, then transmitting the first XML tag, the first metafile and query code to the client; once the client conducts a query by executing the query code using the first XML tag and the first metafile, then receiving query results including a first set of XML tags from the client; combining the first set of XML tags into a key; using the key to search the database to locate records including the first set of XML tags; and delivering the records including the first set of XML tags to the client.

23 20. The method of claim 19, wherein the first set of XML tags includes a domain tag and a category tag.

24 21. The method of claim 19, wherein each of the records includes an XML index component that includes at least one XML tag, and wherein the step of using the key to search the database to locate records including the first set of XML tags comprises: searching the database to locate a record with an XML index component that includes the first set of XML tags.

25 22. A method for identifying a record from a database of records that satisfies a request for information, comprising the steps of: receiving the request for information; sending the request to a server; receiving a first XML tag and a first metafile that are associated with the request and query code from the server; executing the query code to determine a first set of XML tags that are associated with the request; sending the first set of XML tags to the server; receiving the record from the server; and delivering the record.

26 23. The method of claim 22, wherein the first metafile includes a second XML tag, and wherein the step of executing the query code to determine a first set of XML tags that are associated with the request, comprises the steps of: determining whether the second XML tag is associated with the request; and if the second XML tag is associated with the request, then including the second XML tag in the first set of XML tags.

27 24. The method of claim 22, wherein a third XML tag and a fourth XML tag are received from the server, and wherein the step of executing the query code to determine a first set of XML tags that are associated with the request, comprises the steps of: if the third XML tag and the fourth XML tag indicate that the request is ambiguous, then determining whether the third XML tag is related to the request; and if the third XML tag is related to the request, then including the third XML tag, but not the fourth XML tag in the first set of XML tags.

28 25. A method for creating a metafile that can be used to locate records in a database that are related to a trade name, comprising the steps of: selecting an XML tag that is associated with the trade name; and creating a metafile that is associated with the first domain tag by: selecting a first XML tag that is associated with an authorized dealer of a product associated with the trade name; selecting a second XML tag that is associated with an authorized service provider for the product; selecting a third XML tag that is associated with an authorized parts provider for the product, so that the metafile can be used to locate records in the database that are related to the trade name.

29 26. The method of claim 25, further comprising the steps of: in response to a request for information about authorized service providers of the product associated with the trade name, identifying the XML tag using the trade name; identifying the metafile using the XML tag; identifying the second XML tag using the metafile; creating a key using the XML tag and the second XML tag.

19. A method for searching a database of information, comprising the steps of:

receiving a request for information from a client, the request having a first term;

identifying a first XML tag that is associated with the first term;

determining whether a first metafile corresponds to the first XML tag;

if the first metafile corresponds to the first XML tag, then transmitting the first XML tag, the first metafile and query code to the client;

once the client conducts a query by executing the query code using the first XML tag and the first metafile, then receiving query results including a first set of XML tags from the client;

combining the first set of XML tags into a key;

using the key to search the database to locate records including the first set of XML tags; and

delivering the records including the first set of XML tags to the client.

'434 Patent, Claim 19

Independent Claim 22

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17 identifying a second tag that is associated with the request by determining that the second tag is included in a metafile associated with the first tag; combining the first tag and the second tag to create a key; and using the key to search the database to locate records including the first tag and the second tag.

15 15. The computer-readable medium of claim 14, further comprising the steps of:

10 determining whether the first tag and the second tag indicate that the request is ambiguous;

11 if the first tag and the second tag indicate that the request is ambiguous, then conducting a query to determine whether the first tag or the second tag is relevant to the request;

12 if the determination is that the first tag is relevant to the request, then using the first tag, but not the second tag to create the key; and

13 using the key to search the database to locate records including the first tag, but not the second tag.

14 16. The computer-readable medium of claim 14, wherein the request includes a first term, and wherein the step of identifying a first tag that is associated with the request, comprises:

15 identifying the first term in the request; and matching the first term to the first tag.

16 17. The computer-readable medium of claim 14, wherein the metafile includes a third tag, further comprising the steps of:

17 if the first tag and the second tag do not indicate that the request is ambiguous, then combining the first tag, the second tag, and the third tag to create a key; and

18 using the key to search the database to locate records including the first tag, the second tag, and the third tag.

19 18. The computer-readable medium of claim 14, wherein the plurality of tags include a plurality of domain tags and a plurality of category tags, and wherein each domain tag identifies a group of selected category tags and each category tag identifies a group of terms providing business information.

20 19. A method for searching a database of information, comprising the steps of:

21 receiving a request for information from a client, the request having a first term;

22 identifying a first XML tag that is associated with the first term;

23 determining whether a first metafile corresponds to the first XML tag;

24 if the first metafile corresponds to the first XML tag, then transmitting the first XML tag, the first metafile and query code to the client;

25 once the client conducts a query by executing the query code using the first XML tag and the first metafile, then receiving query results including a first set of XML tags from the client;

26 combining the first set of XML tags into a key;

27 using the key to search the database to locate records including the first set of XML tags; and

28 delivering the records including the first set of XML tags to the client.

29 20. The method of claim 19, wherein the first set of XML tags includes a domain tag and a category tag.

30 21. The method of claim 19, wherein each of the records includes an XML index component that includes at least one

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XML tag, and wherein the step of using the key to search the database to locate records including the first set of XML tags comprises:

searching the database to locate a record with an XML index component that includes the first set of XML tags.

22. A method for identifying a record from a database of records that satisfies a request for information, comprising the steps of:

receiving the request for information;

23 sending the request to a server;

24 receiving a first XML tag and a first metafile that are associated with the request and query code from the server;

25 executing the query code to determine a first set of XML tags that are associated with the request;

26 sending the first set of XML tags to the server;

27 receiving the record from the server; and

28 delivering the record.

23. The method of claim 22, wherein the first metafile includes a second XML tag, and wherein the step of executing the query code to determine a first set of XML tags that are associated with the request, comprises the steps of:

24 determining whether the second XML tag is associated with the request; and

25 if the second XML tag is associated with the request, then including the second XML tag in the first set of XML tags.

24. The method of claim 22, wherein a third XML tag and a fourth XML tag are received from the server, and wherein the step of executing the query code to determine a first set of XML tags that are associated with the request, comprises the steps of:

25 if the third XML tag and the fourth XML tag indicate that the request is ambiguous, then determining whether the third XML tag is related to the request; and

26 if the third XML tag is related to the request, then including the third XML tag, but not the fourth XML tag in the first set of XML tags.

25. A method for creating a metafile that can be used to locate records in a database that are related to a trade name, comprising the steps of:

26 selecting an XML tag that is associated with the trade name; and

27 creating a metafile that is associated with the first domain tag by:

28 selecting a first XML tag that is associated with an authorized dealer of a product associated with the trade name;

29 selecting a second XML tag that is associated with an authorized service provider for the product;

30 selecting a third XML tag that is associated with an authorized parts provider for the product;

31 so that the metafile can be used to locate records in the database that are related to the trade name.

26. The method of claim 25, further comprising the steps of:

27 in response to a request for information about authorized service providers of the product associated with the trade name, identifying the XML tag using the trade name;

28 identifying the metafile using the XML tag;

29 identifying the second XML tag using the metafile;

30 creating a key using the XML tag and the second XML tag.

22. A method for identifying a record from a database of records that satisfies a request for information, comprising the steps of:

receiving the request for information;

sending the request to a server;

receiving a first XML tag and a first metafile that are associated with the request and query code from the server;

executing the query code to determine a first set of XML tags that are associated with the request;

sending the first set of XML tags to the server;

receiving the record from the server; and

delivering the record.

'434 Patent, Claim 22

Independent Claim 25

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17 identifying a second tag that is associated with the request by determining that the second tag is included in a metafile associated with the first tag; combining the first tag and the second tag to create a key; and using the key to search the database to locate records including the first tag and the second tag.

15 15. The computer-readable medium of claim 14, further comprising the steps of: determining whether the first tag and the second tag indicate that the request is ambiguous; if the first tag and the second tag indicate that the request is ambiguous, then conducting a query to determine whether the first tag or the second tag is relevant to the request; if the determination is that the first tag is relevant to the request, then using the first tag, but not the second tag to create the key; and using the key to search the database to locate records including the first tag, but not the second tag.

20 16. The computer-readable medium of claim 14, wherein the request includes a first term, and wherein the step of identifying a first tag that is associated with the request, comprises: identifying the first term in the request; and matching the first term to the first tag.

25 17. The computer-readable medium of claim 14, wherein the metafile includes a third tag, further comprising the steps of: if the first tag and the second tag do not indicate that the request is ambiguous, then combining the first tag, the second tag, and the third tag to create a key; and using the key to search the database to locate records including the first tag, the second tag, and the third tag.

30 18. The computer-readable medium of claim 14, wherein the plurality of tags include a plurality of domain tags and a plurality of category tags, and wherein each domain tag identifies a group of selected category tags and each category tag identifies a group of terms providing business information.

35 19. A method for searching a database of information, comprising the steps of: receiving a request for information from a client, the request having a first term; identifying a first XML tag that is associated with the first term; determining whether a first metafile corresponds to the first XML tag; if the first metafile corresponds to the first XML tag, then transmitting the first XML tag, the first metafile and query code to the client; once the client conducts a query by executing the query code using the first XML tag and the first metafile, then receiving query results including a first set of XML tags from the client; combining the first set of XML tags into a key; using the key to search the database to locate records including the first set of XML tags; and delivering the records including the first set of XML tags to the client.

40 20. The method of claim 19, wherein the first set of XML tags includes a domain tag and a category tag.

45 21. The method of claim 19, wherein each of the records includes an XML index component that includes at least one

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XML tag, and wherein the step of using the key to search the database to locate records including the first set of XML tags comprises: searching the database to locate a record with an XML index component that includes the first set of XML tags.

22. A method for identifying a record from a database of records that satisfies a request for information, comprising the steps of: receiving the request for information; sending the request to a server; receiving a first XML tag and a first metafile that are associated with the request and query code from the server; executing the query code to determine a first set of XML tags that are associated with the request; sending the first set of XML tags to the server; receiving the record from the server; and delivering the record.

23. The method of claim 22, wherein the first metafile includes a second XML tag, and wherein the step of executing the query code to determine a first set of XML tags that are associated with the request, comprises the steps of: determining whether the second XML tag is associated with the request; and if the second XML tag is associated with the request, then including the second XML tag in the first set of XML tags.

24. The method of claim 22, wherein a third XML tag and a fourth XML tag are received from the server, and wherein the step of executing the query code to determine a first set of XML tags that are associated with the request, comprises the steps of: if the third XML tag and the fourth XML tag indicate that the request is ambiguous, then determining whether the third XML tag is related to the request; and if the third XML tag is related to the request, then including the third XML tag, but not the fourth XML tag in the first set of XML tags.

25. A method for creating a metafile that can be used to locate records in a database that are related to a trade name, comprising the steps of: selecting an XML tag that is associated with the trade name; and creating a metafile that is associated with the first domain tag by: selecting a first XML tag that is associated with an authorized dealer of a product associated with the trade name; selecting a second XML tag that is associated with an authorized service provider for the product; selecting a third XML tag that is associated with an authorized parts provider for the product, so that the metafile can be used to locate records in the database that are related to the trade name.

26. The method of claim 25, further comprising the steps of: in response to a request for information about authorized service providers of the product associated with the trade name, identifying the XML tag using the trade name; identifying the metafile using the XML tag; identifying the second XML tag using the metafile; creating a key using the XML tag and the second XML tag.

25. A method for creating a metafile that can be used to locate records in a database that are related to a trade name, comprising the steps of:

selecting an XML tag that is associated with the trade name; and

creating a metafile that is associated with the first domain tag by:

selecting a first XML tag that is associated with an authorized dealer of a product associated with the trade name;

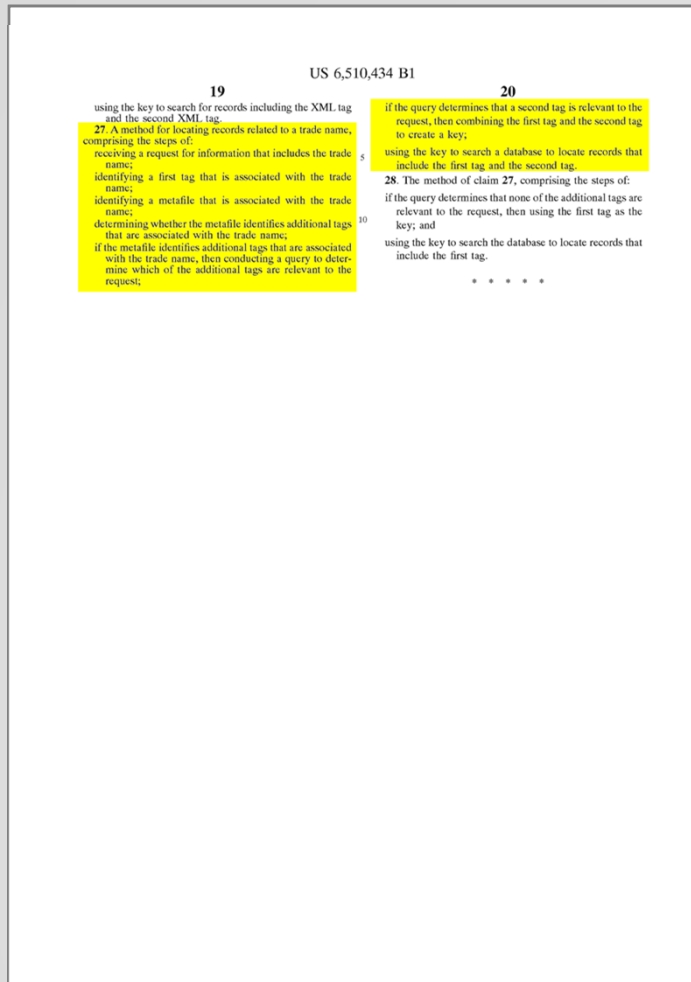
selecting a second XML tag that is associated with an authorized service provider for the product;

selecting a third XML tag that is associated with an authorized parts provider for the product,

so that the metafile can be used to locate records in the database that are related to the trade name.

'434 Patent, Claim 25

Independent Claim 27



27. A method for locating records related to a trade name, comprising the steps of:

- receiving a request for information that includes the trade name;
- identifying a first tag that is associated with the trade name;
- identifying a metafile that is associated with the trade name;
- determining whether the metafile identifies additional tags that are associated with the trade name;
- if the metafile identifies additional tags that are associated with the trade name, then conducting a query to determine which of the additional tags are relevant to the request;
- if the query determines that a second tag is relevant to the request, then combining the first tag and the second tag to create a key;
- using the key to search a database to locate records that include the first tag and the second tag.

'434 Patent, Claim 27

Dependent Claims

- “Field-of-Use” Limitations
 - Dependent claims 4, 13, 18 and 26
 - Domain tags must “identify products” that are marketed to a user (e.g., claim 4)
 - Category tags must “include a brand tag, a cuisine tag, a payment option tag, and an amenity tag” (e.g., claim 13)
 - Category tags must “identif[y] a group of terms providing business information” (e.g., claim 18)
 - Identifying tags “in response to a request for information about authorized service providers of the product associated with the trade name” (e.g., claim 26)
 - “[L]imiting an abstract idea to one field of use” or application does “not make the concept patentable.” *Bilski*, 561 U.S. at 612 (citing *Flook*, 437 U.S. 584).

Dependent Claims (cont.)

- “Relational” Limitations
 - Dependent Claims 8-11, 15-17, 24, 28
 - Parsing user search term to identify relevant tags (e.g., claim 8)
 - Determining whether search terms are ambiguous, and if so, suggesting more appropriate tags (e.g., claims 9-11, 15, 17, 24)
 - Matching first search term with first tag (e.g., claim 16) and creating key based on tag (e.g., claim 28)
 - These limitations are token pre-solution activities, which “is normally not sufficient to transform an unpatentable law of nature into a patent-eligible application of such a law.” *Mayo*, 132 S. Ct. at 1298.

Dependent Claims (cont.)

- “Organizational Structuring” Limitations
 - Dependent Claims 2-3, 5-6, 12, 20-21, and 23
 - Describes the organizational structure of data in the metafiles or type of tags
 - These limitations are token pre-solution activities, which “is normally not sufficient to transform an unpatentable law of nature into a patent-eligible application of such a law.” *Mayo*, 132 S. Ct. at 1298.